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Section SUPERFUND

Program IHS (IHS)

DocCat FACILITY



# LAW

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LAWGIBB Group Member ▲

## LIMITED SITE CONTAMINATION REPORT

WILLIAMSON CLEANERS  
FIKEWOOD PLAZA  
WILSON, NORTH CAROLINA

Prepared For:

Williamson Cleaners  
1400 Ward Boulevard  
Wilson, North Carolina 27893

Prepared By:

Law Engineering and Environmental Services, Inc.  
3301 Atlantic Avenue  
Raleigh, North Carolina 27604

May 4, 1998

LAW Job No. 30741-8-2867

# LAW

LAWGIBB Group Member 

May 4, 1998

Williamson Cleaners  
1400 Ward Boulevard  
Wilson, North Carolina 27893

Attention: Mr. Joel Williamson.

Subject: **LIMITED SITE CONTAMINATION REPORT**  
**WILLIAMSON CLEANERS**  
**FIKEWOOD PLAZA**  
**WILSON, NORTH CAROLINA**  
**LAW ENGINEERING JOB NO. 30741-8-2867**

Dear Mr. Williamson:

Law Engineering and Environmental Services, Inc. (LAW) is pleased to present the results of our environmental services recently performed at the subject site. The purpose of our services was to determine the absence or presence of perchloroethylene ("Perc") within subsurface soils and/or groundwater at the site. The investigation was conducted in general accordance with the scope of work provided in LAW proposal No. 30741-8-5464, dated April 17, 1998.

## *BACKGROUND*

The subject site is a dry-cleaning facility located within the Fikewood Plaza shopping center (Drawing 1) and has been in operation since 1985. The dry-cleaning machine is a closed-loop system that utilizes Perc and has always been operated at its current location within the building. No additional dry-cleaning machines have been located within this building space and no other dry-cleaning facilities have been located within the shopping center since its construction.

Mr. Joel and Judy Williamson reportedly purchased the facility four years ago. At the time of the purchase Mr. Williamson made several upgrades to the dry cleaning machine to improve its efficiency and to address his concerns regarding the operation of the facility and its effect on the environment. The dry cleaning machine was recently deactivated and the facility is currently being used as a pickup station. Based upon our recent site observations, the deteriorated condition of the paint on the dry-cleaning machine and the presence of staining on the machine and surrounding concrete floor suggested that Perc may have been released at the facility.

### ***SCOPE OF WORK***

The objective of our services was to determine the absence or presence of Perc within subsurface soils and/or groundwater at the site. To meet this objective, we conducted a limited contamination assessment that included the advancement of four soil borings to collect soil and groundwater samples for laboratory analysis. Field activities were conducted on April 23, 1998.

Two of the soil borings were advanced within the building through the concrete floor adjacent to the dry-cleaning machine. The two remaining soil borings were advanced through the asphalt outside of the building at the location of the boiler condensate discharge pipe, and where the dumpster was formerly located during the previous ownership of the facility. An electric coring machine was used to cut four-inch diameter holes through the concrete and asphalt. The approximate locations of the soil borings are shown on Drawing 2.

Soil samples were collected from each of the borings during our assessment activities at regular depth intervals. A licensed geologist conducted the field activities and manually inspected and screened the soil samples in the field for indications of contamination. A Foxboro organic vapor analyzer (OVA) calibrated to 100 parts per million (ppm) methane was used to screen soil samples using the headspace method. The unsaturated soil sample from each boring that exhibited the greatest indication of contamination was submitted for laboratory analysis.

The water-table was encountered at a depth of approximately two feet below land surface (bls) within each of the four soil borings. LAW collected groundwater samples by installing a temporary monitoring well into each of the four borings. Each well was constructed of two-inch diameter schedule 40 polyvinyl chloride (PVC) equipped with a 2.0 foot long section of 0.010-inch slotted screen. The temporary wells were installed within the borings to depths ranging from 4.0 to 6.0 feet bls. Approximately one gallon of groundwater was bailed from each of the four wells prior to sample collection. Groundwater was then decanted directly from the bailer into prelabeled sample jars.

The four soil samples and groundwater samples were placed into a cooler with ice and were maintained in the custody of the LAW field representative until delivery to Federal Express for shipment to LAW's analytical laboratory in Pensacola, Florida. The soil samples were analyzed for halogenated volatile organic compounds using EPA test Method 8010. The groundwater samples were also analyzed for halogenated volatile organic compounds using EPA test Method 601.

The PVC wellpoint was removed from each of the four soil borings upon completion of groundwater sampling activities. Each boring was then backfilled with a cement bentonite grout slurry.

### **RESULTS OF THE INVESTIGATION**

The results of our laboratory analysis indicate that dry cleaning solvent was detected in unsaturated subsurface soils at all of the boring locations with the exception of Boring B-1 which was located adjacent to the dumpster. Tetrachloroethene (Perc), trans 1,2-dichloroethene (DCE), cis-1,2-dichloroethene (also referred to as DCE) and trichloroethene (TCE) were detected at elevated concentrations within subsurface soils. DCE and TCE are known daughter products from the natural degradation of Perc within the subsurface. North Carolina has not established maximum concentration standards for these constituents in soil at this time. Bromomethane and chloromethane were also detected in soil at the location of boring B-4. At this time it appears that these constituents are not related to the former dry cleaning process and may be artifacts of the tap water that was used in the concrete coring process. A summary of the laboratory test and headspace screening results are provided in Table 1. A copy of the laboratory report is provided in Attachment A.

Groundwater contamination was detected at each of the three locations where soil contamination was detected in unsaturated soils and was not detected at the location of Boring B-1. Perc and TCE were the only two constituents that were detected in groundwater. Both of these constituents were detected at concentrations that exceeded their respective North Carolina Groundwater Standards.

Our inspection of subsurface soils indicates that they consist of a mottled gray to brown clayey silt with small amounts of sand. A thin two to eight-inch layer of black organic silt was observed immediately below the concrete and asphalt surface. The water-table was encountered at all four boring locations at a depth of approximately 2 feet bsl. A review of the Wilson, North Carolina United States Geological Survey Quadrangle map (Drawing 1) indicates that the site is located in a low-lying area near to Toisnot Swamp. This suggests that the shallow-water table encountered within the borings is representative of naturally occurring conditions.

### **CONCLUSIONS AND RECOMMENDATIONS**

Field observations and laboratory test results suggest that Perc was released into subsurface soils and groundwater at the location of the dry cleaning machine and near the back door adjacent to the condensate drip pipe to the boiler. There was no evidence to suggest that dry cleaning solvent had been released as a result of previous use of the dumpster. The extent of soil and groundwater contamination is not known at this time as such determination was beyond the scope of this investigation.

The presence of Perc and TCE concentrations in groundwater in excess of their respective standards requires that the North Carolina Department of the Environment and Natural Resources (DENR) be notified that a release of dry-cleaning solvent has occurred at the subject property. DENR will likely require additional assessment to determine the approximate extent of both soil and groundwater contamination and

to determine if the release poses a threat to human health and the environment. Although North Carolina has not established maximum allowable concentrations for the dry-cleaning solvent constituents in subsurface soils, contaminated soils represent an ongoing source of groundwater contamination and should therefore be remediated.

A copy of this report should be submitted to DENR Division of Water Quality (DWQ) to notify this agency of the release as required in 15A NCAC 2L.0106.

**CLOSURE**

We appreciate the opportunity to provide environmental services for this project. If any questions arise regarding this letter report, or if we may be of further assistance, please do not hesitate to contact us.

Sincerely,

**LAW ENGINEERING & ENVIRONMENTAL SERVICES, INC.**



Brian J. Bellis, L.G.  
Principal Hydrogeologist

cc: Mr. Kevin Grewell, ECS Insurance - Claims Department

TABLE

TABLE 1

SUMMARY OF LABORATORY ANALYTICAL RESULTS  
 SOIL AND GROUNDWATER SAMPLES  
 WILLIAMSON CLEANERS - FIKEWOOD PLAZA  
 WILSON, NORTH CAROLINA  
 LAW JOB NO. 30741-8-2867

PARAMETER	SAMPLE I.D. #	B-1 TW-1		B-2 TW-2		B-3 TW-3		B-4 TW-4		N.C. GROUNDWATER STANDARDS (ug/L)
		Soil (B-1)	GW (TW-1)	Soil (B-2)	GW (TW-2)	Soil (B-1)	GW (TW-3)	Soil (B-1)	GW (TW-4)	
SAMPLE DEPTH (SOIL) SCREENED INTERVAL (GROUNDWATER) (FT)		0.5-1.0	1.5-3.5	0.5-1.0	3.5-5.5	0.5-1.0	2.0-4.0	1.0-1.5	2.0-4.0	
SAMPLE DATE		4/23/98		4/23/98		4/23/98		4/23/98		
<b>EPA METHODS 8010 AND 601</b>										
Bromomethane		ND	ND	ND	ND	ND	ND	579	ND	*
Chloromethane		ND	ND	ND	ND	ND	ND	360	ND	*
Trans 1,2,Dichloroethene (DCE)		ND	ND	ND	ND	34.9	ND	ND	ND	70
Cis-1,2-Dichloroethene (DCE)		ND	ND	65.2	ND	508	ND	5650	ND	70
Tetrachloroethene (PCE or "Perc")		ND	ND	ND	466	20.9	1130	1810	352	0.7
Trichloroethene (TCE)		ND	ND	7.09	342	3.13	228	1170	188	2.8
HEADSPACE SCREENING RESULTS (ppm)		6.0	na	1.1	na	1.3	na	41.0	na	na

All results are ug/L (GW) or ug/Kg (Soil) =Micrograms (ug) per liter (L) or Kilogram (Kg) = parts per billion (ppb).

GW              Groundwater

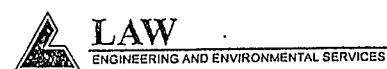
ND              Not detected; see laboratory reports for applicable detection limits.

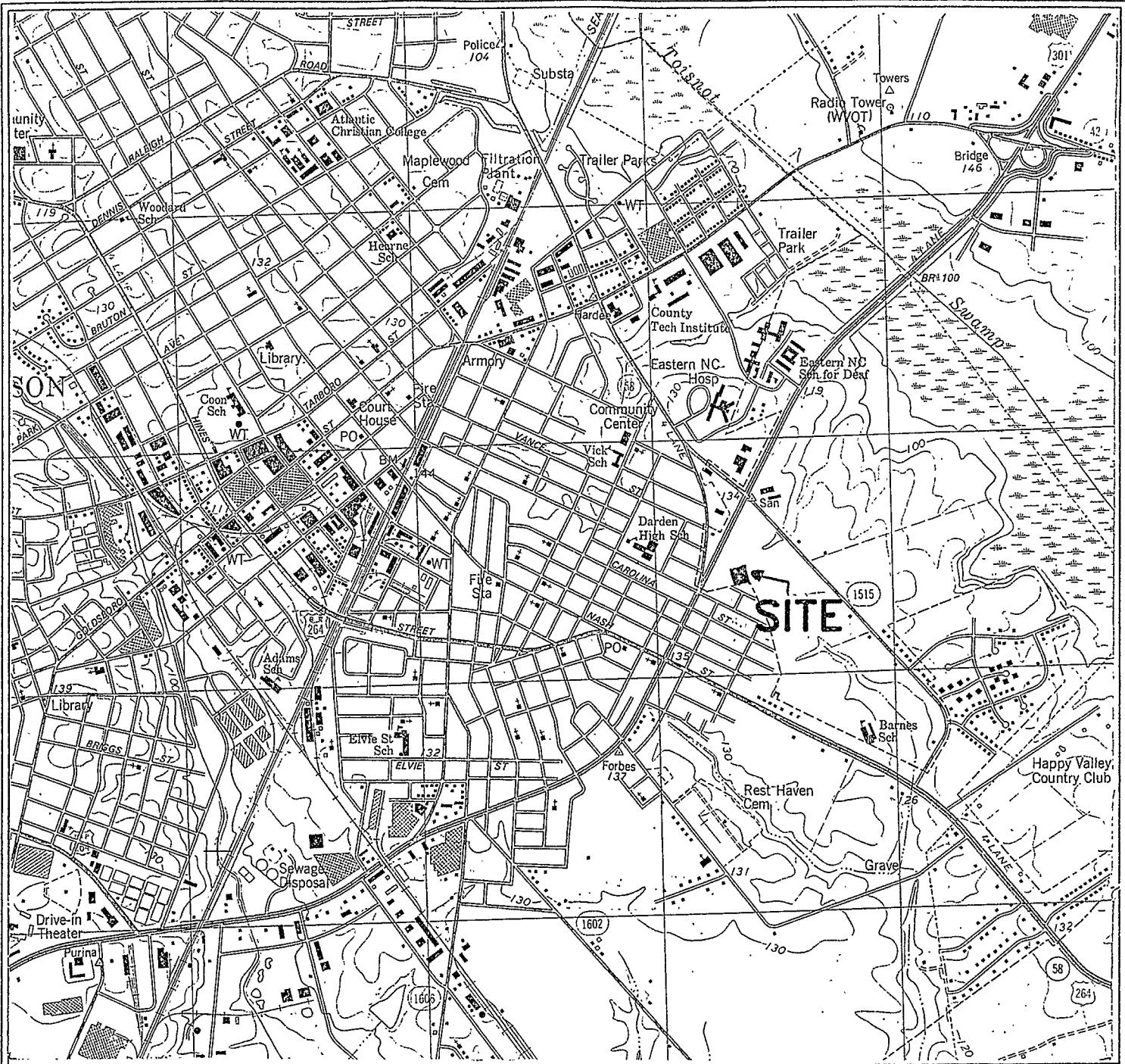
na              Not analyzed for this parameter

\*              Groundwater Standards = Laboratory detect limit.

Shaded Area = Concentration detected above NC Groundwater Standards - Groundwater Samples Only

DRAWINGS



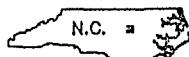


NORTH

WILSON, N.C.

NW/4 WILSON 15' QUADRANGLE  
N3537.5—W7752.5/7.5

1978



QUADRANGLE LOCATION

CONTOUR INTERVALS 10 FEET

GRAPHIC SCALE FEET

2000 1000 0 2000 4000

NOTE: SITE LOCATION IS APPROXIMATE.



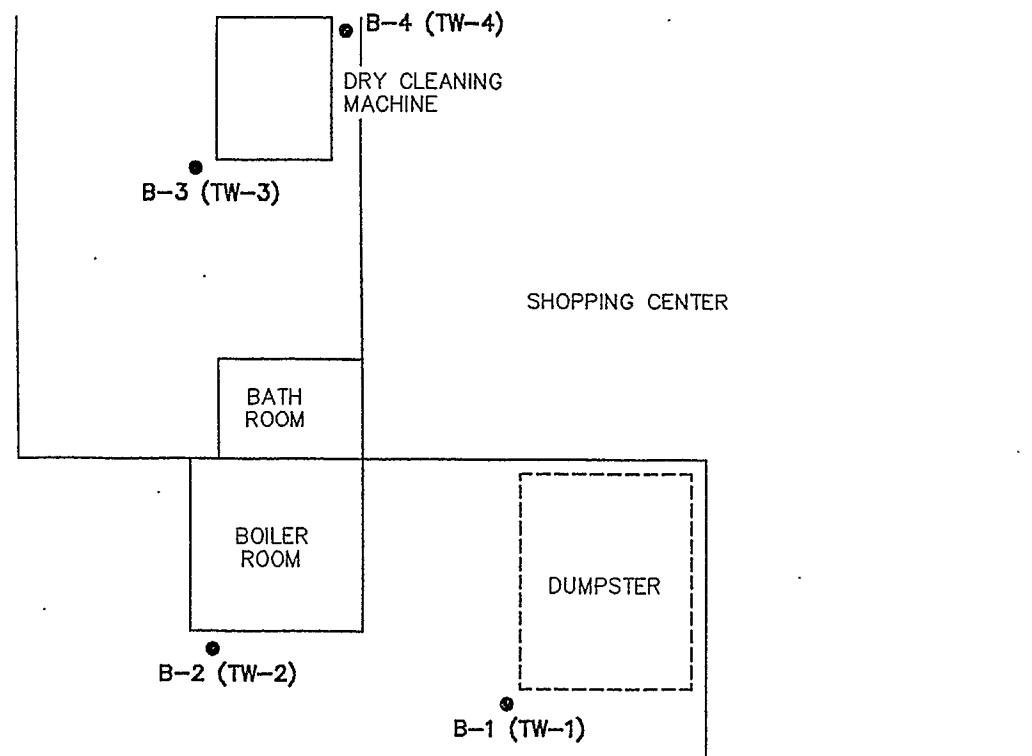
LAW ENGINEERING AND  
ENVIRONMENTAL SERVICES, INC.  
RALEIGH, NORTH CAROLINA

TOPOGRAPHIC SITE MAP  
WILLIAMSON CLEANERS  
FIKEWOOD PLAZA  
WILSON, NORTH CAROLINA

DRAWN: ARP	DATE: MAY 1998
DFT CHECK: KRF	SCALE: 1: 24000
ENG CHECK: JT	JOB: 30741-8-2867
APPROVAL: BSB	DWG: 1



NORTH  
(APPROXIMATE)



ASPHALT

CURB

GRASS

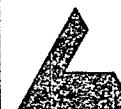
LEGEND

● B-1 (TW-1) SOIL BORING  
(TEMPORARY MONITERING WELL) LOCATION

DRAWING NOT TO SCALE

82867P01.dwg

SAMPLE LOCATION MAP  
WILLIAMSON CLEANERS – FIKEWOOD PLAZA  
WILSON, NORTH CAROLINA



LAW ENGINEERING AND  
ENVIRONMENTAL SERVICES, INC.  
RALEIGH, NORTH CAROLINA

DRAWN: <i>ARP</i>	ENG CHECK: <i>JT</i>	DATE: MAY 1998	JOB: 30741-8-2867
DFT CHECK: <i>KRT</i>	APPROVAL: <i>BWB</i>	SCALE: N.T.S	DWG: 2

REFERENCE:

**ATTACHMENT A**  
**LABORATORY TEST REPORT**  
**AND**  
**CHAIN OF CUSTODY**



May 1, 1998

Mr. Jeff Tyburski  
LAW Engineering and Environmental Services, Inc.  
3301 Atlantic Avenue  
Raleigh, NC 27604

Subject:      **Chemical Analysis of Samples Received on 04-24-98**  
                  **Williamson, Project No. 30741-8-2867.01.916**

Dear Mr. Tyburski:

Law Engineering and Environmental Services, Inc., National Laboratories has completed its analysis of your samples and reports the results on the following pages. These results relate only to the contents of the samples as submitted.

If further assistance is needed, please feel free to contact me at (850) 857-0606 ext. 121.

Sincerely,

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.  
NATIONAL LABORATORIES

A handwritten signature in cursive ink that appears to read "Tonya Starr".

Tonya Starr  
Project Manager

Enclosures:    Data Report  
                  Invoice

---

3355 McLemore Drive  
Pensacola, Florida 32514  
(850) 857-0606

**LAW ENVIRONMENTAL NATIONAL LABORATORIES**  
**TEST DATA REPORT**

05/01/98

--- Project Information ---

Mr. Jeff Tyburski  
 LAW Eng. & Env. Svcs., Inc.  
 3301 Atlantic Avenue  
 Raleigh, NC 27604

Page 1

Project Name: WILLCLEA  
 Williamson 30741-8-2867.01.916

--- Sample Information ---

Station ID: B-1 (0.5-1.0)  
 Lab ID: AB46577  
 Collector: R. TYBURSKI

Date Sampled: 04/23/98  
 Time Sampled: 15:35  
 Log In Date: 04/24/98  
 Log In Time: 10:24

--- Test Information ---

Analysis

Parameter	Units	Method	Rpt Lim	Result	Date	Tech
10621-8010 Volatiles Soils ug/Kg	ug/Kg	SW8021B			04/29/98	NC
Bromobenzene	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
Bromodichloromethane	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
Bromoform	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
Bromomethane	ug/Kg	SW8021B	2.26	Not Det	04/29/98	NC
Carbon tetrachloride	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
Chlorobenzene	ug/Kg	SW8021B	2.26	Not Det	04/29/98	NC
Chloroethane	ug/Kg	SW8021B	2.26	Not Det	04/29/98	NC
2-Chloroethylvinyl ether	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
Chloroform	ug/Kg	SW8021B	0.565	Not Det	04/29/98	NC
1-Chlorohexane	ug/Kg	SW8021B	2.26	Not Det	04/29/98	NC
Chloromethane	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
Dibromochloromethane	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
Dibromomethane	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
1,2-Dichlorobenzene	ug/Kg	SW8021B	2.26	Not Det	04/29/98	NC
1,3-Dichlorobenzene	ug/Kg	SW8021B	2.26	Not Det	04/29/98	NC
1,4-Dichlorobenzene	ug/Kg	SW8021B	2.26	Not Det	04/29/98	NC
1,1-Dichloroethane	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
1,2-Dichloroethane	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
1,1-Dichloroethene	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
trans-1,2-Dichloroethene	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
cis-1,2-Dichloroethene	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
1,2-Dichloropropane	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
cis-1,3-Dichloropropene	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
trans-1,3-Dichloropropene	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
Methylene chloride	ug/Kg	SW8021B	2.26	Not Det	04/29/98	NC
1,1,1,2-Tetrachloroethane	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
1,1,2,2-Tetrachloroethane	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
Tetrachloroethene	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
1,1,1-Trichloroethane	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
1,1,2-Trichloroethane	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
Trichloroethene	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
Trichlorofluoromethane	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
1,2,3-Trichloropropane	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC
Vinyl chloride	ug/Kg	SW8021B	1.13	Not Det	04/29/98	NC

LAW ENVIRONMENTAL NATIONAL LABORATORIES  
TEST DATA REPORT

05/01/98

--- Project Information ---

Mr. Jeff Tyburski  
LAW Eng. & Env. Svcs., Inc.  
3301 Atlantic Avenue  
Raleigh, NC 27604

Page 2

Project Name: WILLCLEA  
Williamson 30741-8-2867.01.916

--- Sample Information ---

Station ID: B-1 (0.5-1.0)  
Lab ID: AB46577  
Collector: R. TYBURSKI

Date Sampled: 04/23/98  
Time Sampled: 15:35  
Log In Date: 04/24/98  
Log In Time: 10:24

--- Test Information ---

Analysis

Parameter	Units	Method	Rpt Lim	Result	Date	Tech
sur-1,4-Dichlorobutane SR 50-150	ug/Kg	SW8021B	0	96	04/29/98	NC

Remarks:

Signed: CB Causey  
Carl B. Causey  
Technical Services Director

**LAW ENVIRONMENTAL NATIONAL LABORATORIES**  
**TEST DATA REPORT**

05/01/98

--- Project Information ---

Mr. Jeff Tyburski  
 LAW Eng. & Env. Svcs., Inc.  
 3301 Atlantic Avenue  
 Raleigh, NC 27604

Page 1

Project Name: WILLCLEA  
 Williamson 30741-8-2867.01.916

--- Sample Information ---

Station ID: B-2 (0.5-1.0)  
 Lab ID: AB46578  
 Collector: R. TYBURSKI

Date Sampled: 04/23/98  
 Time Sampled: 13:40  
 Log In Date: 04/24/98  
 Log In Time: 10:24

--- Test Information ---

Analysis

Parameter	Units	Method	Rpt Lim	Result	Date	Tech
10621-8010 Volatiles Soils ug/Kg	ug/Kg	SW8021B			04/30/98	NC
Bromobenzene	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
Bromodichloromethane	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
Bromoform	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
Bromomethane	ug/Kg	SW8021B	9.84	Not Det	04/30/98	NC
Carbon tetrachloride	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
Chlorobenzene	ug/Kg	SW8021B	9.84	Not Det	04/30/98	NC
Chloroethane	ug/Kg	SW8021B	9.84	Not Det	04/30/98	NC
2-Chloroethylvinyl ether	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
Chloroform	ug/Kg	SW8021B	2.46	Not Det	04/30/98	NC
1-Chlorohexane	ug/Kg	SW8021B	9.84	Not Det	04/30/98	NC
Chloromethane	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
Dibromochloromethane	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
Dibromomethane	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
1,2-Dichlorobenzene	ug/Kg	SW8021B	9.84	Not Det	04/30/98	NC
1,3-Dichlorobenzene	ug/Kg	SW8021B	9.84	Not Det	04/30/98	NC
1,4-Dichlorobenzene	ug/Kg	SW8021B	9.84	Not Det	04/30/98	NC
1,1-Dichloroethane	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
1,2-Dichloroethane	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
1,1-Dichloroethene	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
trans-1,2-Dichloroethene	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
cis-1,2-Dichloroethene	ug/Kg	SW8021B	4.92	65.2	04/30/98	NC
1,2-Dichloropropane	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
cis-1,3-Dichloropropene	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
trans-1,3-Dichloropropene	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
Methylene chloride	ug/Kg	SW8021B	9.84	Not Det	04/30/98	NC
1,1,1,2-Tetrachloroethane	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
1,1,2,2-Tetrachloroethane	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
Tetrachloroethene	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
1,1,1-Trichloroethane	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
1,1,2-Trichloroethane	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
Trichloroethene	ug/Kg	SW8021B	4.92	7.09	04/30/98	NC
Trichlorofluoromethane	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
1,2,3-Trichloropropane	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC
Vinyl chloride	ug/Kg	SW8021B	4.92	Not Det	04/30/98	NC

LAW ENVIRONMENTAL NATIONAL LABORATORIES  
TEST DATA REPORT

05/01/98

--- Project Information ---

Mr. Jeff Tyburski  
LAW Eng. & Env. Svcs., Inc.  
3301 Atlantic Avenue  
Raleigh, NC 27604

Page 2

Project Name: WILLCLEA  
Williamson 30741-8-2867.01.916

--- Sample Information ---

Station ID: B-2 (0.5-1.0)  
Lab ID: AB46578  
Collector: R. TYBURSKI

Date Sampled: 04/23/98  
Time Sampled: 13:40  
Log In Date: 04/24/98  
Log In Time: 10:24

--- Test Information ---

Parameter	Units	Method	Rpt Lim	Result	Date	Analysis Tech
sur-1,4-Dichlorobutane 8R 50-150	ug/Kg	SW8021B	0	102	04/30/98	NC

Remarks:

Signed: CB Causey  
Carl B. Causey  
Technical Services Director

**LAW ENVIRONMENTAL NATIONAL LABORATORIES**  
**TEST DATA REPORT**

05/01/98

--- Project Information ---

Mr. Jeff Tyburski  
 LAW Eng. & Env. Svcs., Inc.  
 3301 Atlantic Avenue  
 Raleigh, NC 27604

Page 1

Project Name: WILLCLEA  
 Williamson 30741-8-2867.01.916

--- Sample Information ---

Station ID: B-3 (0.5-1.0)  
 Lab ID: AB46579  
 Collector: R. TYBURSKI

Date Sampled: 04/23/98  
 Time Sampled: 14:10  
 Log In Date: 04/24/98  
 Log In Time: 10:24

--- Test Information ---

Analysis

Parameter	Units	Method	Rpt Lim	Result	Date	Tech
10621-8010 Volatiles Soils ug/Kg	ug/Kg	SW8021B			04/29/98	NC
Bromobenzene	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC
Bromodichloromethane	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC
Bromoform	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC
Bromomethane	ug/Kg	SW8021B	2.28	Not Det	04/29/98	NC
Carbon tetrachloride	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC
Chlorobenzene	ug/Kg	SW8021B	2.28	Not Det	04/29/98	NC
Chloroethane	ug/Kg	SW8021B	2.28	Not Det	04/29/98	NC
2-Chloroethylvinyl ether	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC
Chloroform	ug/Kg	SW8021B	0.570	Not Det	04/29/98	NC
1-Chlorohexane	ug/Kg	SW8021B	2.28	Not Det	04/29/98	NC
Chloromethane	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC
Dibromochloromethane	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC
Dibromomethane	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC
1,2-Dichlorobenzene	ug/Kg	SW8021B	2.28	Not Det	04/29/98	NC
1,3-Dichlorobenzene	ug/Kg	SW8021B	2.28	Not Det	04/29/98	NC
1,4-Dichlorobenzene	ug/Kg	SW8021B	2.28	Not Det	04/29/98	NC
1,1-Dichloroethane	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC
1,2-Dichloroethane	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC
1,1-Dichloroethene	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC
trans-1,2-Dichloroethene	ug/Kg	SW8021B	1.14	34.9	04/29/98	NC
cis-1,2-Dichloroethene	ug/Kg	SW8021B	142	508	04/29/98	NC
1,2-Dichloropropane	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC
cis-1,3-Dichloropropene	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC
trans-1,3-Dichloropropene	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC
Methylene chloride	ug/Kg	SW8021B	2.28	Not Det	04/29/98	NC
1,1,1,2-Tetrachloroethane	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC
1,1,2,2-Tetrachloroethane	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC
Tetrachloroethene	ug/Kg	SW8021B	1.14	20.9	04/29/98	NC
1,1,1-Trichloroethane	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC
1,1,2-Trichloroethane	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC
Trichloroethene	ug/Kg	SW8021B	1.14	3.13	04/29/98	NC
Trichlorofluoromethane	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC
1,2,3-Trichloropropane	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC
Vinyl chloride	ug/Kg	SW8021B	1.14	Not Det	04/29/98	NC

LAW ENVIRONMENTAL NATIONAL LABORATORIES  
TEST DATA REPORT

05/01/98

--- Project Information ---

Mr. Jeff Tyburski  
LAW Eng. & Env. Svcs., Inc.  
3301 Atlantic Avenue  
Raleigh, NC 27604

Page 2

Project Name: WILLCLEA  
Williamson 30741-8-2867.01.916

--- Sample Information ---

Station ID: B-3 (0.5-1.0)  
Lab ID: AB46579  
Collector: R. TYBURSKI

Date Sampled: 04/23/98  
Time Sampled: 14:10  
Log In Date: 04/24/98  
Log In Time: 10:24

--- Test Information ---

Analysis

Parameter	Units	Method	Rpt Lim	Result	Date	Tech
sur-1,4-Dichlorobutane SR 50-150	ug/Kg	SW8021B	0	97	04/29/98	NC

Remarks:

Signed: CB Causey  
Carl B. Causey  
Technical Services Director

**LAW ENVIRONMENTAL NATIONAL LABORATORIES**  
**TEST DATA REPORT**

05/01/98

--- Project Information ---

Mr. Jeff Tyburski  
 LAW Eng. & Env. Svcs., Inc.  
 3301 Atlantic Avenue  
 Raleigh, NC 27604

Page 1

Project Name: WILLCLEA  
 Williamson 30741-8-2867.01.916

--- Sample Information ---

Station ID: B-4 (1.0-1.5)  
 Lab ID: AB46580  
 Collector: R. TYBURSKI

Date Sampled: 04/23/98  
 Time Sampled: 14:35  
 Log In Date: 04/24/98  
 Log In Time: 10:24

--- Test Information ---

Analysis

Parameter	Units	Method	Rpt Lim	Result	Date	Tech
10621-8010 Volatiles Soils ug/Kg	ug/Kg	SW8021B			04/29/98	NC
Bromobenzene	ug/Kg	SW8021B	146	Not Det	04/29/98	NC
Bromodichloromethane	ug/Kg	SW8021B	146	Not Det	04/29/98	NC
Bromoform	ug/Kg	SW8021B	146	Not Det	04/29/98	NC
Bromomethane	ug/Kg	SW8021B	292	579	04/29/98	NC
Carbon tetrachloride	ug/Kg	SW8021B	146	Not Det	04/29/98	NC
Chlorobenzene	ug/Kg	SW8021B	292	Not Det	04/29/98	NC
Chloroethane	ug/Kg	SW8021B	292	Not Det	04/29/98	NC
2-Chloroethylvinyl ether	ug/Kg	SW8021B	146	Not Det	04/29/98	NC
Chloroform	ug/Kg	SW8021B	73.0	Not Det	04/29/98	NC
1-Chlorohexane	ug/Kg	SW8021B	292	Not Det	04/29/98	NC
Chloromethane	ug/Kg	SW8021B	146	360	04/29/98	NC
Dibromochloromethane	ug/Kg	SW8021B	146	Not Det	04/29/98	NC
Dibromomethane	ug/Kg	SW8021B	146	Not Det	04/29/98	NC
1,2-Dichlorobenzene	ug/Kg	SW8021B	292	Not Det	04/29/98	NC
1,3-Dichlorobenzene	ug/Kg	SW8021B	292	Not Det	04/29/98	NC
1,4-Dichlorobenzene	ug/Kg	SW8021B	292	Not Det	04/29/98	NC
1,1-Dichloroethane	ug/Kg	SW8021B	146	Not Det	04/29/98	NC
1,2-Dichloroethane	ug/Kg	SW8021B	146	Not Det	04/29/98	NC
1,1-Dichloroethene	ug/Kg	SW8021B	146	Not Det	04/29/98	NC
trans-1,2-Dichloroethene	ug/Kg	SW8021B	146	Not Det	04/29/98	NC
cis-1,2-Dichloroethene	ug/Kg	SW8021B	146	5650	04/29/98	NC
1,2-Dichloropropane	ug/Kg	SW8021B	146	Not Det	04/29/98	NC
cis-1,3-Dichloropropene	ug/Kg	SW8021B	146	Not Det	04/29/98	NC
trans-1,3-Dichloropropene	ug/Kg	SW8021B	146	Not Det	04/29/98	NC
Methylene chloride	ug/Kg	SW8021B	292	Not Det	04/29/98	NC
1,1,1,2-Tetrachloroethane	ug/Kg	SW8021B	146	Not Det	04/29/98	NC
1,1,2,2-Tetrachloroethane	ug/Kg	SW8021B	146	Not Det	04/29/98	NC
Tetrachloroethene	ug/Kg	SW8021B	146	1810	04/29/98	NC
1,1,1-Trichloroethane	ug/Kg	SW8021B	146	Not Det	04/29/98	NC
1,1,2-Trichloroethane	ug/Kg	SW8021B	146	Not Det	04/29/98	NC
Trichloroethene	ug/Kg	SW8021B	146	1170	04/29/98	NC
Trichlorofluoromethane	ug/Kg	SW8021B	146	Not Det	04/29/98	NC
1,2,3-Trichloropropane	ug/Kg	SW8021B	146	Not Det	04/29/98	NC
Vinyl chloride	ug/Kg	SW8021B	146	Not Det	04/29/98	NC

## LAW ENVIRONMENTAL NATIONAL LABORATORIES

## TEST DATA REPORT

05/01/98

## --- Project Information ---

Mr. Jeff Tyburski

Page 2

LAW Eng. & Env. Svcs., Inc.  
3301 Atlantic Avenue  
Raleigh, NC 27604

Project Name: WILLCLEA  
Williamson 30741-8-2867.01.916

## --- Sample Information ---

Station ID: B-4 (1.0-1.5)  
Lab ID: AB46580  
Collector: R. TYBURSKI

Date Sampled: 04/23/98  
Time Sampled: 14:35  
Log In Date: 04/24/98  
Log In Time: 10:24

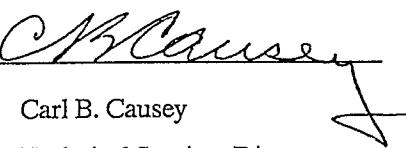
## --- Test Information ---

Analysis

Parameter	Units	Method	Rpt Lim	Result	Date	Tech
sur-1,4-Dichlorobutane %R 50-150	ug/Kg	SW8021B	0	107	04/29/98	NC

Remarks:

Signed:

  
Carl B. Causey  
Technical Services Director

## LAW ENVIRONMENTAL NATIONAL LABORATORIES

## TEST DATA REPORT

05/01/98

## --- Project Information ---

Mr. Jeff Tyburski  
 LAW Eng. & Env. Svcs., Inc.  
 3301 Atlantic Avenue  
 Raleigh, NC 27604

Page 1

Project Name: WILLCLEA  
 Williamson 30741-8-2867.01.916

## --- Sample Information ---

Station ID: TW-1

Date Sampled: 04/23/98

Lab ID: AB46581

Time Sampled: 16:15

Collector: R. TYBURSKI

Log In Date: 04/24/98

Log In Time: 10:24

## --- Test Information ---

## Analysis

Parameter	Units	Method	Rpt Lim	Result	Date	Tech
10621-601 VOA by GC ug/L	ug/L	EPA 601			04/28/98	NC
Bromodichloromethane	ug/L	EPA 601	1.00	Not Det	04/28/98	NC
Bromoform	ug/L	EPA 601	1.00	Not Det	04/28/98	NC
Bromomethane	ug/L	EPA 601	2.00	Not Det	04/28/98	NC
Carbon tetrachloride	ug/L	EPA 601	1.00	Not Det	04/28/98	NC
Chlorobenzene	ug/L	EPA 601	2.00	Not Det	04/28/98	NC
Chloroethane	ug/L	EPA 601	2.00	Not Det	04/28/98	NC
2-Chloroethylvinyl ether	ug/L	EPA 601	1.00	Not Det	04/28/98	NC
Chloroform	ug/L	EPA 601	0.500	Not Det	04/28/98	NC
Chloromethane	ug/L	EPA 601	1.00	Not Det	04/28/98	NC
Dibromochloromethane	ug/L	EPA 601	1.00	Not Det	04/28/98	NC
1,2-Dichlorobenzene	ug/L	EPA 601	2.00	Not Det	04/28/98	NC
1,3-Dichlorobenzene	ug/L	EPA 601	2.00	Not Det	04/28/98	NC
1,4-Dichlorobenzene	ug/L	EPA 601	2.00	Not Det	04/28/98	NC
Dichlorodifluoromethane	ug/L	EPA 601	1.00	Not Det	04/28/98	NC
1,1-Dichloroethane	ug/L	EPA 601	1.00	Not Det	04/28/98	NC
1,2-Dichloroethane	ug/L	EPA 601	1.00	Not Det	04/28/98	NC
1,1-Dichloroethene	ug/L	EPA 601	1.00	Not Det	04/28/98	NC
trans-1,2-Dichloroethene	ug/L	EPA 601	1.00	Not Det	04/28/98	NC
1,2-Dichloropropane	ug/L	EPA 601	1.00	Not Det	04/28/98	NC
cis-1,3-Dichloropropene	ug/L	EPA 601	1.00	Not Det	04/28/98	NC
trans-1,3-Dichloropropene	ug/L	EPA 601	1.00	Not Det	04/28/98	NC
Methylene chloride	ug/L	EPA 601	2.00	Not Det	04/28/98	NC
1,1,2,2-Tetrachloroethane	ug/L	EPA 601	1.00	Not Det	04/28/98	NC
Tetrachloroethene	ug/L	EPA 601	1.00	Not Det	04/28/98	NC
1,1,1-Trichloroethane	ug/L	EPA 601	1.00	Not Det	04/28/98	NC
1,1,2-Trichloroethane	ug/L	EPA 601	1.00	Not Det	04/28/98	NC
Trichloroethene	ug/L	EPA 601	1.00	Not Det	04/28/98	NC
Trichlorofluoromethane	ug/L	EPA 601	1.00	Not Det	04/28/98	NC
Vinyl chloride	ug/L	EPA 601	2.00	Not Det	04/28/98	NC
sur-1,4-Dichlorobutane %R 50-150	ug/L	EPA 601	0	110	04/28/98	NC

Remarks:

Signed: CB Causey

Carl B. Causey  
Technical Services Director

**LAW ENVIRONMENTAL NATIONAL LABORATORIES**  
**TEST DATA REPORT**

05/01/98

--- Project Information ---

Mr. Jeff Tyburski  
 LAW Eng. & Env. Svcs., Inc.  
 3301 Atlantic Avenue  
 Raleigh, NC 27604

Page 1

Project Name: WILLCLEA  
 Williamson 30741-8-2867.01.916

--- Sample Information ---

Station ID:	TW-2	Date Sampled:	04/23/98
Lab ID:	AB46582	Time Sampled:	16:00
Collector:	R. TYBURSKI	Log In Date:	04/24/98
		Log In Time:	10:24

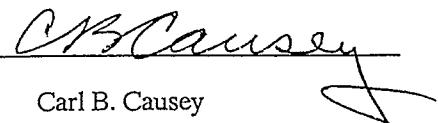
--- Test Information ---

Analysis

Parameter	Units	Method	Rpt Lim	Result	Date	Tech
10621-601 VOA by GC ug/L	ug/L	EPA 601			04/28/98	NC
Bromodichloromethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
Bromoform	ug/L	EPA 601	100	Not Det	04/28/98	NC
Bromomethane	ug/L	EPA 601	200	Not Det	04/28/98	NC
Carbon tetrachloride	ug/L	EPA 601	100	Not Det	04/28/98	NC
Chlorobenzene	ug/L	EPA 601	200	Not Det	04/28/98	NC
Chloroethane	ug/L	EPA 601	200	Not Det	04/28/98	NC
2-Chloroethylvinyl ether	ug/L	EPA 601	100	Not Det	04/28/98	NC
Chloroform	ug/L	EPA 601	50.0	Not Det	04/28/98	NC
Chloromethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
Dibromochloromethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
1,2-Dichlorobenzene	ug/L	EPA 601	200	Not Det	04/28/98	NC
1,3-Dichlorobenzene	ug/L	EPA 601	200	Not Det	04/28/98	NC
1,4-Dichlorobenzene	ug/L	EPA 601	200	Not Det	04/28/98	NC
Dichlorodifluoromethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
1,1-Dichloroethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
1,2-Dichloroethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
1,1-Dichloroethene	ug/L	EPA 601	100	Not Det	04/28/98	NC
trans-1,2-Dichloroethene	ug/L	EPA 601	100	Not Det	04/28/98	NC
1,2-Dichloropropane	ug/L	EPA 601	100	Not Det	04/28/98	NC
cis-1,3-Dichloropropene	ug/L	EPA 601	100	Not Det	04/28/98	NC
trans-1,3-Dichloropropene	ug/L	EPA 601	100	Not Det	04/28/98	NC
Methylene chloride	ug/L	EPA 601	200	Not Det	04/28/98	NC
1,1,2,2-Tetrachloroethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
Tetrachloroethene	ug/L	EPA 601	100	466	04/28/98	NC
1,1,1-Trichloroethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
1,1,2-Trichloroethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
Trichloroethene	ug/L	EPA 601	100	342	04/28/98	NC
Trichlorofluoromethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
Vinyl chloride	ug/L	EPA 601	200	Not Det	04/28/98	NC
sur-1,4-Dichlorobutane %R 50-150	ug/L	EPA 601	0	83	04/28/98	NC

Remarks:

Signed:

Carl B. Causey

Technical Services Director

**LAW ENVIRONMENTAL NATIONAL LABORATORIES**  
**TEST DATA REPORT**

05/01/98

--- Project Information ---

Mr. Jeff Tyburski  
 LAW Eng. & Env. Svcs., Inc.  
 3301 Atlantic Avenue  
 Raleigh, NC 27604

Page 1

Project Name: WILLCLEA  
 Williamson 30741-8-2867.01.916

--- Sample Information ---

Station ID:	TW-3	Date Sampled:	04/23/98
Lab ID:	AB46583	Time Sampled:	16:20
Collector:	R. TYBURSKI	Log In Date:	04/24/98
		Log In Time:	10:24

--- Test Information ---

Analysis

Parameter	Units	Method	Rpt Lim	Result	Date	Tech
10621-601 VOA by GC ug/L	ug/L	EPA 601			04/28/98	NC
Bromodichloromethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
Bromoform	ug/L	EPA 601	100	Not Det	04/28/98	NC
Bromomethane	ug/L	EPA 601	200	Not Det	04/28/98	NC
Carbon tetrachloride	ug/L	EPA 601	100	Not Det	04/28/98	NC
Chlorobenzene	ug/L	EPA 601	200	Not Det	04/28/98	NC
Chloroethane	ug/L	EPA 601	200	Not Det	04/28/98	NC
2-Chloroethylvinyl ether	ug/L	EPA 601	100	Not Det	04/28/98	NC
Chloroform	ug/L	EPA 601	50.0	Not Det	04/28/98	NC
Chloromethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
Dibromochloromethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
1,2-Dichlorobenzene	ug/L	EPA 601	200	Not Det	04/28/98	NC
1,3-Dichlorobenzene	ug/L	EPA 601	200	Not Det	04/28/98	NC
1,4-Dichlorobenzene	ug/L	EPA 601	200	Not Det	04/28/98	NC
Dichlorodifluoromethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
1,1-Dichloroethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
1,2-Dichloroethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
1,1-Dichloroethene	ug/L	EPA 601	100	Not Det	04/28/98	NC
trans-1,2-Dichloroethene	ug/L	EPA 601	100	Not Det	04/28/98	NC
1,2-Dichloropropane	ug/L	EPA 601	100	Not Det	04/28/98	NC
cis-1,3-Dichloropropene	ug/L	EPA 601	100	Not Det	04/28/98	NC
trans-1,3-Dichloropropene	ug/L	EPA 601	100	Not Det	04/28/98	NC
Methylene chloride	ug/L	EPA 601	200	Not Det	04/28/98	NC
1,1,2,2-Tetrachloroethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
Tetrachloroethene	ug/L	EPA 601	100	1130	04/28/98	NC
1,1,1-Trichloroethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
1,1,2-Trichloroethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
Trichloroethene	ug/L	EPA 601	100	228	04/28/98	NC
Trichlorofluoromethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
Vinyl chloride	ug/L	EPA 601	200	Not Det	04/28/98	NC
sur-1,4-Dichlorobutane %R 50-150	ug/L	EPA 601	0	106	04/28/98	NC

Remarks:

Signed: CB Causey

Carl B. Causey

Technical Services Director

**LAW ENVIRONMENTAL NATIONAL LABORATORIES**  
**TEST DATA REPORT**

05/01/98

--- Project Information ---

Mr. Jeff Tyburski  
 LAW Eng. & Env. Svcs., Inc.  
 3301 Atlantic Avenue  
 Raleigh, NC 27604

Page 1  
 Project Name: WILLCLEA  
 Williamson 30741-8-2867.01.916

--- Sample Information ---

Station ID:	TW-4	Date Sampled:	04/23/98
Lab ID:	AB46584	Time Sampled:	16:30
Collector:	R. TYBURSKI	Log In Date:	04/24/98
		Log In Time:	10:24

--- Test Information ---

Analysis

Parameter	Units	Method	Rpt Lim	Result	Date	Tech
10621-601 VOA by GC ug/L	ug/L	EPA 601			04/28/98	NC
Bromodichloromethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
Bromoform	ug/L	EPA 601	100	Not Det	04/28/98	NC
Bromomethane	ug/L	EPA 601	200	Not Det	04/28/98	NC
Carbon tetrachloride	ug/L	EPA 601	100	Not Det	04/28/98	NC
Chlorobenzene	ug/L	EPA 601	200	Not Det	04/28/98	NC
Chloroethane	ug/L	EPA 601	200	Not Det	04/28/98	NC
2-Chloroethylvinyl ether	ug/L	EPA 601	100	Not Det	04/28/98	NC
Chloroform	ug/L	EPA 601	50.0	Not Det	04/28/98	NC
Chloromethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
Dibromochloromethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
1,2-Dichlorobenzene	ug/L	EPA 601	200	Not Det	04/28/98	NC
1,3-Dichlorobenzene	ug/L	EPA 601	200	Not Det	04/28/98	NC
1,4-Dichlorobenzene	ug/L	EPA 601	200	Not Det	04/28/98	NC
Dichlorodifluoromethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
1,1-Dichloroethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
1,2-Dichloroethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
1,1-Dichloroethene	ug/L	EPA 601	100	Not Det	04/28/98	NC
trans-1,2-Dichloroethene	ug/L	EPA 601	100	Not Det	04/28/98	NC
1,2-Dichloropropane	ug/L	EPA 601	100	Not Det	04/28/98	NC
cis-1,3-Dichloropropene	ug/L	EPA 601	100	Not Det	04/28/98	NC
trans-1,3-Dichloropropene	ug/L	EPA 601	100	Not Det	04/28/98	NC
Methylene chloride	ug/L	EPA 601	200	Not Det	04/28/98	NC
1,1,2,2-Tetrachloroethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
Tetrachloroethene	ug/L	EPA 601	100	352	04/28/98	NC
1,1,1-Trichloroethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
1,1,2-Trichloroethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
Trichloroethene	ug/L	EPA 601	100	188	04/28/98	NC
Trichlorofluoromethane	ug/L	EPA 601	100	Not Det	04/28/98	NC
Vinyl chloride	ug/L	EPA 601	200	Not Det	04/28/98	NC
sur-1,4-Dichlorobutane %R 50-150	ug/L	EPA 601	0	108	04/28/98	NC

Remarks:

Signed: Carl B. Causey  
Carl B. Causey  
Technical Services Director

